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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,498	08/14/2006	Michael Inbasekaran	Q92640	3430
23373                      7590                      05/19/2010 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER YANG, JAY				
ART UNIT		PAPER NUMBER		
1786				
NOTIFICATION DATE		DELIVERY MODE		
05/19/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com  
PPROCESSING@SUGHRUE.COM  
USPTO@SUGHRUE.COM

# Office Action Summary

**Application No.**

10/579,498

**Applicant(s)**

INBASEKARAN ET AL.

**Examiner**

J. L. YANG

**Art Unit**

1786

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This Office Action is in response to the Applicant's Arguments/Remarks Made in an Amendment filed 02/02/10.

#### ***Response to Amendment***

1. The rejection of Claims 1-12 under 35 U.S.C. 103(a) as being unpatentable over Gao et al. (US 2005/0239636 A1) in view of Ishizawa et al. (US 7,012,123 B2) in the Office Action filed 08/05/09 is overcome by amendment.
2. The rejection of Claims 13 and 14 under 35 U.S.C. 103(a) as being unpatentable over Gao et al. (US 2005/0239636 A1) in view of Ishizawa et al. (US 7,012,123 B2) and Kikuchi et al. (US 5,378,519 A) in the Office Action filed 08/05/09 is overcome by amendment.

#### ***Claim Rejections – 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

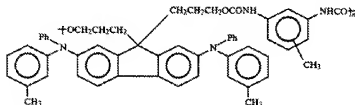
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

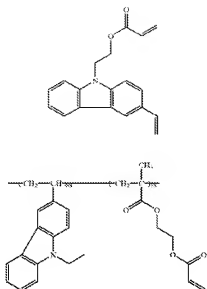
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-3 and 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ong et al. (US 4,983,482 A) in view of Taguchi et al. (US 2003/0124382 A1).

Regarding Claims 1-3, 5-7, and 9, Ong et al. discloses the following compound:

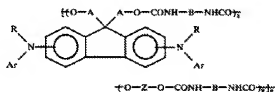


(II, col. 9) such that  $Ar^1 = Ar^2 = C_{6-20}$  aromatic group (phenyl or toluene),  $a = b = 0$ , and  $R^2 = \text{hydrogen}$ . However, Ong et al. does not disclose  $R^1$  to be any of the recited crosslinkable groups. Nevertheless, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the crosslinkable groups in the compound as disclosed by Ong et al. for groups such as vinyl groups ( $-CH=CH_2$ ) as the crosslinkable group. The motivation is provided by the fact that such groups for polymerization are widely known in the art as disclosed by Taguchi et al. in which vinyl groups are used to polymerize charge-transporting units as material for organic EL devices:



(pages 6-7) such that the substitutions would have been predictable with a reasonable expectation of success.

Regarding Claim 8, Ong et al. discloses the generalized formula that encompasses the compound shown above:



Where Ar = R = aryl group (abstract) such as phenyl (col. 9-10).

Regarding Claims 10-13, Ong et al. discloses an electronic device comprising the polymer shown above in the form of a film as a hole-transporting layer (abstract).

Regarding Claim 11, Ong et al. discloses forming such polymers in the presence of a catalyst at 25-100° C.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ong et al. (US 4,983,482 A) in view of Taguchi et al. (US 2003/0124382 A1) and Jaycox et al. (US 2003/0225234 A1).

Regarding Claim 14, Ong et al. discloses an electronic device according to Claim 13 as shown above but not disclose that the electronic device is an electroluminescent device. Nevertheless, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate such polymeric material as a layer in an organic EL device as hole-transporting material. The motivation is provided by the fact that such fluorenyl polymers are widely known as disclosed by Jaycox et al. (abstract, [0065]) in addition to the fact that such fluorenyl polymers are known to be hole-transporting (Ong et al., abstract).

### ***Response to Arguments***

1. Applicant's arguments with respect to Claims 1-3 and 5-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. L. YANG whose telephone number is (571)270-1137. The examiner can normally be reached on Monday to Thursday from 8:30 am to 6:00 pm Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on (571)272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art Unit 1786

/J. Y./  
Examiner, Art Unit 1786